Signal LED A — Signal LED B
Signal LED C — Signal LED Gate/Latch
A — B
Power contact +24 V — +24 V
Power contact 0 V — 0 V
C — Gate/Latch

Top view   Contact assembly

EL5151 | 1-channel incremental encoder interface

The EL5151 EtherCAT Terminal is an interface with 24 V inputs for the direct connection of incremental encoders. With the EL5151, a 32 bit counter with a quadrature decoder and a 32 bit latch for the zero pulse can be read, set or enabled. Alternatively, the EL5151 can be used as up/down counter terminal with gate.

The EL5151 supports the synchronous reading of the encoder value, together with other input data, into the EtherCAT system via high-precision EtherCAT distributed clocks (DC).

Technical data	EL5151 | ES5151
Technology	incremental encoder interface 24 V DC
Number of channels	1
Encoder connection	A, B, C, gate/latch input 24 V DC, EN 61131-2, type 1, "0": < 5 V DC, "1":> 15 V DC, typ. 5 mA
Sensor inputs	1
Encoder operating voltage	24 V DC
Counter	1 x 16/32 bit switchable
Input frequency	max. 400,000 increments/s (with 4-fold evaluation)
Quadrature decoder	4-fold evaluation
Commands	read, set, latching
Distributed clocks	yes
Input signal	24 V DC
Supply voltage	24 V DC (-15 %/+20 %)
Nominal voltage	24 V DC at power contact
Current consumption power contacts	typ. 100 mA + load
Resolution	1/256 bit microincrements
Current consumption E-bus	typ. 130 mA
Bit width in the process image	14 byte ENC input, 6 byte ENC output
Special features	gate or latch function, microincrements, timestamping of edges, period duration and frequency measurement, up/down counters
Weight	approx. 50 g
Operating/storage temperature	-25…+60 °C/-40…+85 °C
Relative humidity	95 %, no condensation
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protect. class/installation pos.	IP 20/variable
Pluggable wiring	for all ESxxxx terminals
Approvals	CE, UL, Ex

Related products	
EL5151-0021	1-channel incremental encoder interface with parameterisable 24 V DC output
EL5152	2-channel incremental encoder interface, 32 bit